

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

Claims 1-12. (Cancelled)

Claim 13. (Currently amended): A method of treating endometriosis ~~or infertility,~~  
~~or of improving fertility,~~ comprising administering a therapeutically effective amount of a composition comprising a  $\beta$ -adrenergic agonist and a pharmaceutically acceptable bioadhesive carrier locally to the vaginal mucosa of a patient in need thereof.

Claim 14. (Currently amended): The method of claim 13, wherein the  $\beta$ -adrenergic agonist is terbutaline, and the composition is formulated to be administered in a dosage that delivers about 1 ~~mg~~ mg to about 8 ~~mg~~ mg of terbutaline.

Claim 15. (Previously presented): The method of claim 14, wherein the composition is administered in a dosage that delivers about 2 mg to about 4 mg of terbutaline.

Claim 16. (Currently amended): A method of treating endometriosis ~~or infertility,~~  
~~or of improving fertility,~~ comprising administering a therapeutically effective amount of a composition comprising a  $\beta$ -adrenergic agonist and a pharmaceutically acceptable bioadhesive carrier locally to the vaginal mucosa of a patient in need thereof, while avoiding detrimental blood levels of the said ~~a~~  $\beta$ -adrenergic agonist.

Claim 17. (Currently amended): The method of claim ~~16~~ 17, wherein the  $\beta$ -adrenergic agonist is terbutaline.

Claim 18. (Currently amended): The method of claim ~~17~~ 17, wherein the bioadhesive carrier comprises a cross-linked water insoluble but water swellable polycarboxylic acid polymer.

Claim 19. (Previously presented): The method of claim 18, wherein the polymer is polycarbophil.

Claim 20. (Previously presented): The method of claim 15, wherein the composition is administered every 12 to 96 hours.

Claim 21. (Previously presented): The method of claim 15, wherein the composition is administered twice weekly.

Claim 22. (Previously presented): The method of claim 15, wherein the composition is administered in the form of a tablet.

Claims 23-37. (Cancelled)

Claim 38. (Previously presented): The method of claim 15, wherein the composition is administered in the form of a gel or cream.

Claim 39. (New): A method of treating infertility, or of improving fertility, by inhibiting retrograde contractions or by improving uterine contractility, comprising administering a therapeutically effective amount of a composition comprising a  $\beta$ -adrenergic agonist and a pharmaceutically acceptable bioadhesive carrier locally to the vaginal mucosa of a patient in need thereof, wherein the amount administered is sufficient to inhibit retrograde contractions or improve uterine contractility.

Claim 40. (New): The method of claim 39, wherein the  $\beta$ -adrenergic agonist is terbutaline.

Claim 41. (New): The method of claim 40, wherein the composition is formulated to be administered in a dosage that delivers about 1 mg to about 8 mg of terbutaline.

Claim 42. (New): The method of claim 41, wherein the composition is administered in a dosage that delivers about 2 mg to about 4 mg of terbutaline.

Claim 43. (New): The method of claim 42, wherein the bioadhesive carrier comprises a cross-linked water insoluble but water swellable polycarboxylic acid polymer.

Claim 44. (New): The method of claim 43, wherein the polymer is polycarbophil.

Claim 45. (New): The method of claim 39, wherein the composition is administered every 12 to 96 hours.

Claim 46. (New): The method of claim 39, wherein the composition is administered twice weekly.

Claim 47. (New): The method of claim 39, wherein the composition is administered in the form of a tablet.

Claim 48. (New): The method of claim 39, wherein the composition is administered in the form of a gel or cream.

Claim 49. (New) The method of claim 39, wherein detrimental blood levels of the  $\beta$ -adrenergic agonist are avoided.

Claim 50. (New) The method of claim 39, wherein the infertility is associated with endometriosis.